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EXAMINER

SCHUBERT, KEVIN R

ART UNIT	PAPER NUMBER
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2137

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,585

Applicant(s)

SATO, YASUTAKA

Examiner

Kevin Schubert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-34 have been considered.

Claim Objections

5 Claims 20,23,29, and 32 are objected to because of the following informalities: the applicant claims an output unit which converts byte data into binary data. As described in the first office action, byte data cannot be converted into binary data because byte data is binary data.

Claim Rejections - 35 USC § 102

10 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

15 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Karppanen, U.S. Patent No. 5,987,137.

20 As per claims 1 and 17, the applicant describes a data protection processing device which comprises the following limitations which are met by Karppanen:

a) a determination unit which reads continuous digital data in sequence and determines whether or not the read digital data forms numerical values having a predetermined pattern (Col 9, lines 53-62);

25 b) a calculation unit which adds predetermined calculation values to or subtracts predetermined calculation values from either all of or a portion of a predetermined number of items of digital data that are continuous after digital data that is determined as a result of the determination by the determination unit to form numerical values having the predetermined pattern (Col 7, lines 16-19);

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As per claims 2,5,8,11,15,18,21,24,27,30, and 33, the applicant describes the data protection processing device of claims 1,4,7,10,13,17,20,23,26,29, and 32, which are anticipated by Karppanen (see above), with the following additional limitation:

Wherein the calculation unit sequentially adds or subtracts calculation values of predetermined data patterns or byte patterns to or from digital data or byte data that is the object of the addition or subtraction (Col 7, lines 16-19);

The applicant can see from Fig 4b that the enciphering process is a sequential process where plain text is inputted with block 1 into a bit wise binary addition unit and enciphered or encrypted text is output for transmission.

The applicant should also note that since "an output bit string (Block 1) is summed to the sub-block (plain text in)" (Col 7, lines 16-17), Block 1 is in a predetermined data pattern or byte pattern to match that of the plain text in (Col 6, lines 25-30).

As per claims 3,6,9,12,16,19,22,25,28,31, and 34, the applicant describes the data protection processing device according to claim 1, which is anticipated by Karppanen (see above), with the following additional limitations which are also anticipated by Karppanen:

- a) a memory which stores information relating to the predetermined numerical values or the predetermined byte code, information relating to the predetermined number of items, and information relating to the predetermined calculation values (Col 9, lines 53-62; Col 9, lines 20-25);
- b) an information altering unit which alters at least one from among the information relating to the predetermined numerical values or the predetermined byte code, the information relating to the predetermined number of items, and the information relating to the predetermined calculation values that are stored in the memory (Fig 4b; Col 9, lines 11-19);

Regarding part a), since the network and the mobile station both have a way of recognizing a "start cipher" command (Col 9, lines 53-62), both of them must have information relating to the "start cipher" command, or byte code, stored in memory. This is also information related to the predetermined number of items because the number of frames that the enciphering key operates on is a function of

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when the "start cipher" command has executed. Lastly, information relating to the predetermined calculation values is information about the ciphering key, which is stored in memory and which generates the addition of values to the plain text.

Regarding part b), the information altering unit is described by the applicant as a unit which stores and provides data, such as adding conditions, adding range, and protection key values for the calculation unit. In regards to Fig 4b and the lines referenced above, the information altering unit corresponds to the unit which stores and matches the count synchronization data and the key data which are processed to produce output Block1 for the calculation unit.

As per claims 4 and 20, the applicant describes the limitations of claim 1, which is met by Karppanen (see above), and the following additional limitations which are also met by Karppanen:

a) a holding unit which temporarily holds binary data input serially as byte data of a byte unit (bitwise binary addition block of Fig 4b);

d) an output unit which serially outputs byte data calculated by the calculation unit into as data of a bit unit (bitwise binary addition block of Fig 4b);

As per claims 7, 13, and 26, the claims present the data protection processing device of claim 1 with a second determination and calculation unit. Fig 4b discloses a system with two calculation units, one on the network side for enciphering a message and one on the mobile station side for deciphering a message. The use of two determination units is disclosed in Col 7, lines 16-24 because both the network side and the mobile station side have to be able to determine when to begin the enciphering/deciphering phase. This satisfies claims 13 and 26.

Claim 7 discloses the use of both the first and second determination and calculation units on the same device. Karppanen's system takes place in a bidirectional environment where both the network and the mobile station are equipped with transmission/reception calculation units. As described in Col 9, lines 53-62, the network side commences the enciphering/deciphering of information once a determination has been made that a received "start cipher" message has been received and deciphered (Col 9, lines 53-62).

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A deciphering unit is separate from the enciphering unit because the deciphering unit combines enciphered text with a key (block 1) to form plain text while an enciphering unit combines plain text with a key (block 1) to form enciphered text.

The use of the network side having an enciphering calculation unit is illustrated in Fig 4b.

- 5 Furthermore, it is inherent in the art that there is a determination unit which decides, based on whether the "start cipher" message has been received, whether or not to pass the information to be transmitted through the enciphering method.

As per claim 10, the applicant describes a modem device with the limitations of claim 7, which are anticipated by Karppanen (see above), and the following additional limitations which are also anticipated by Karppanen:

a) a data compression unit which performs data compression processing on a digital data to be transmitted based on a normalized data compression standard (Col 3, lines 1-6);

15 f) a data decompression unit which converts byte data subtracted or added in the second calculation unit into digital data and performs data decompression processing on the converted digital data based on the data decompression standard (Col 3, lines 1-6);

The use of a modem, or "data transmission link to a mobile station" (Col 3, lines 20-21), and the internet (Col 3, line 18) is disclosed by Karppanen. The use of compressing data to be enciphered is disclosed (Col 3, lines 1-6), as the SNDC layer is where compression and enciphering take place. Since deciphering also takes place at the SNDC layer, it is inherent that decompression takes place here as well when a compressed, enciphered message is sent for decompression and deciphering.

As per claim 14, the applicant describes the data communication system according to claim 13, which is met by Karppanen (see above), with the following additional limitation which is also met by Karppanen:

Wherein the data transmitting device and data receiving device are connected to each other via a network such as the Internet (Col 3, lines 15-21).

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As per claim 23, the applicant describes the limitations of claim 4, which is met by Karppanen (see above), with the following additional limitations which are also met by Karppanen:

- b) a data extraction processing step of extracting a portion of the byte data forming the predetermined data frames held in the holding step to serve as data for processing (Col 6, lines 25-27);
- e) a data frame reconstruction processing step of reconstructing the predetermined data frames using byte data calculated in the calculation processing step (Col 5, lines 14-17; Col 2, lines 8-11);

Data within the network and mobile station systems is processed in frames (Col 2, lines 8-11).

Regarding part b), once the data is serially received and framed, extra bits in the frame such as bits which tell the frame whether or not the data is to be ciphered or not ciphered are read (Col 10, lines 16-22). The remaining data is extracted and processed with the ciphering key bit by bit in the calculation unit (Col 6, lines 25-27) given that the determination unit has determined that the data is not the "start cipher" command and the "start cipher" command has already been sent to set up the mutual exchange of enciphered or deciphered information.

As per claim 29, the claim includes limitations a) through d) which are met by the rejection for claim 4. Having a parallel receiving unit which has limitations e) through h) is met by the rejection for claim 7.

As per claim 32, the claim includes limitations a) through f) which are met by the rejection for claim 23. Having a parallel receiving unit which has limitations g) through l) is met by the rejection for claim 7.

Response to Arguments

Applicant's remarks, see Remarks filed 5/13/05, with respect to the Specification have been fully considered. The objection of the Specification has been withdrawn.

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Applicant's arguments filed with respect to the Specification have been fully considered but they are not persuasive. Byte data is binary data so a limitation of converting byte data to binary is illogical.

Applicant's arguments with respect to the 112 2nd rejections have been fully considered. The 112
5 2nd rejections have been withdrawn.

Applicant's arguments with respect to claim 1 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

10 Regarding claim 1, Karppanen discloses a system in which a mobile station and a network entity exchange messages (see Fig 4b). In the system, data is transmitted between the two entities in cleartext or enciphered mode. If the network entity decides to start transmitting in enciphered mode, the network entity transmits a predetermined pattern which Karppanen calls a "start cipher" command. The mobile
15 entity which is receiving data in cleartext mode detects the predetermined pattern of the "start cipher" command (part a). The mobile station then starts adding BLOCK1 to the data it receives to get the cleartext back (part b).

Applicant's arguments with respect to claim 4 fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing
20 out how the language of the claims patentably distinguishes them from the references.

Regarding claim 4, parts b and c have been discussed above. The bit wise binary addition block of Fig 4b is a holding unit for temporarily holding data which is received as serially data from the network entity (part a). The bit wise binary addition block is also an output unit for outputting serially plaintext data (part d).

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Conclusion

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THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Schubert whose telephone number is (571) 272-4239. The examiner can normally be reached on M-F 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on (571) 272-3868. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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